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On the Ecological Status of the Absheron Peninsula



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Introduction

Approximately 40% of the population in Azerbaijan and 70% of the industrial potential are in the Absheron peninsula. In addition to Baku, Sumgayit and Khirdalan, 32 settlements are located on the peninsula. Administrative area of Absheron district is 1407.5m². It is believed that the word "Absheron" is derived from the Persian words "ab" and "salam" and translates "salty water." This name was previously used to refer to the Caspian Sea (Figure 1).

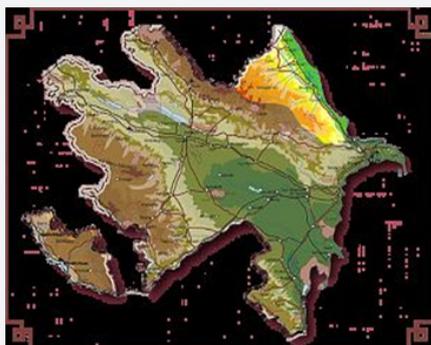


Figure 1: Course of research and discussion of materials.

Course of Research and Discussion of Materials

The Absheron climate is moderately hot and dry subtropical. The sunshine of the year is 2200-2400 hours. The average temperature of the coldest month is that the hardness of the winter is very soft (0; -5°C), very soft (2.5-0 °C) and extremely soft (5-2.5°C).

The country is the least rainy (200-400mm) and most windy areas. In hot periods (April-October) possible evaporation is 1000mm. The number of days of drought in June-September is around 5-25 days. One of the main problems of the Absheron peninsula is related to soil pollution. The total area of the useless land of the Absheron Peninsula, with a total area of 222,000 hectares, is 33,300 hectares, including oil contaminated land-up to 10,000 hectares.

7,500 hectares of polluted lands are polluted with oil and oil products on the balance of the State Oil Company of the

Azerbaijan Republic, and more than 2800 ha of soil are more contaminated. Soil contamination rate is from 1-2% to 30-40%, depth is 2-3 meters and more. The full industrialization of the peninsula and the semi-deserted natural habitat have diminished the possibility of self-restoration of the land. There is no sign of natural ecosystems on the peninsula (Figure 2).

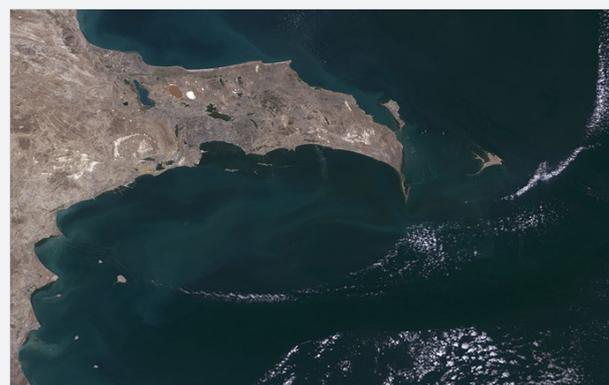


Figure 2: Shoot. Photo shows from oil-fired lands in Caspian Sea coast.

The Main Causes of Environmental Problems

The main causes of ecological problems are the pollution of lands with oil and gas in the oil and gas extraction and drilling activities for many years, the occurrence of artificial lakes and ponds polluted by pollution of the groundwater, and the accumulation of waste generated at oil refineries. Another environmental problem is related to sewerage systems. During 2008, approximately 536mln. m³ of waste water was generated and 144.5mln. m³ wastewater discharged into the sea and inland water basins. In addition to waste water, oil products, suspended matter, sulphate compounds, chloride salts, surface active substances, phenol and various heavy metals are thrown into the water basins. One of the most serious environmental problems of Baku and the Absheron peninsula is related to solid waste management. The total area of 5 domestic wastes landfills in the peninsula is 232.5 hectares. The area of illegal dumps is 448.6 hectares, 128 of them.

Offshore landfills do not meet environmental standards and standards. So, the landfills have not been damaged and the control has not been established, after the emptying of the waste is not covered with soil cover. Due to the fact that no sorting is carried out, hazardous and some industrial wastes are placed in the landfill together with household waste. In 2009, certain measures have been taken to improve the Balakhani waste landfill by the relevant authorities.

Hazardous waste generated during the production of caustic soda and chlorine by mercury was one of the major environmental problems in Sumgayit and in the Absheron Peninsula. However, as a result of recent actions, this problem has been solved. Absheron Peninsula has more than 200 lakes with a total area of 3325 hectares. These lakes are subject to 41.5mln. cubic meters of waste water is discharged.

The impacts of these lakes on the environment include the degradation and salinization of the soils, the flooding of additional land areas as a result of the rise of the level, the destruction of hydrocarbons and other harmful substances into the atmosphere, destruction of settlements, facilities, roads and other communication lines. The most polluted lakes are the Big Shor, Bulbul, Redgol, Haji Hasan and Chukurda lakes.

The most polluted land in Absheron with oil and oil products is in Garadagh, Binagadi, Sabunchu, Surakhani, Azizbeyov and Sabail districts. Another tough ecological area of the Absheron peninsula is Baku bay. Contamination of the bay with a total area of 50km² and a length of 20km in the coastline results in pollution of the sea, reduction of biodiversity and creation of antisanitary conditions.

Territory of Baku Yod Factory in Surakhani District the accumulated wastes are isolated from the environment by means of stone damage and measures are taken by relevant agencies to neutralize them. Other areas of Absheron are ecologically degraded. The Complex Plan of Action for the Improvement of the Ecological Situation in the Republic of Azerbaijan for 2006-2010 was approved by the President of the Republic of Azerbaijan on 28 September, in order to solve the existing environmental problems in the region.

This Action Plan has a great importance in improving the ecological situation of Baku and Absheron peninsula. The Comprehensive Action Plan identifies all major areas of action that are aimed at rebuilding the environment. Improvement of the ecological situation of Baku Bay, Bibi Heybat zone, surroundings of Heydar Aliyev International Airport, lakes of Absheron peninsula, oil contaminated soils, discharge areas and other polluted areas, according to solid waste management system and improving waste management in Sumgayit, and so on. issues were reflected in the action plan.

Measures are being taken in the direction of sewage disposal of residential buildings in Baku and Absheron peninsula, reconstruction of existing treatment facilities and construction

of new treatment facilities. Completion of the reconstruction of the Hovsan Aeration Station at the end of 2009 and directing the sewerage to the bay to the aeration station will have a positive impact on the gradual purification of the Baku bay.

In order to improve the ecological situation of the Caspian Sea, the module-type local water treatment plants have been installed in accordance with the international standards in the direction of the President of the Republic of Azerbaijan "On some measures to protect the Caspian Sea from contamination".

These devices are made of Italy, USA, Germany, Taiwan, Turkey and France, and are packaged in Turkey. In 2009 there were commissioned 7 stations with 2325 m³ wastewater treatment capacity daily and 16 stations with 6140 m³ wastewater treatment capacity daily in 2008-2009.

Thanks to this, wastewater has a negative impact on the environment and human health ingredients (including, in some cases, 2.3 million units per liter, organic contaminants that exceed 100 times the norm) and dip into the depth of 250-300 meters. As a result of the monitoring, the monitoring of the Caspian Sea's water pollution has been diminishing in a short period of time. It should be noted that 56422 cubic meters of mercury containing toxic waste caused by serious pollution of the Sumgayit city environment has been neutralized and transported to the Hazardous Waste Landfill in 2007-2009, including 23,500 m³ in 2009, and this process report in the middle of the year.

Conclusions and Suggestions

Based on the results of the research, the following conclusions are drawn:

1. Modul type wastewater treatment plants were constructed and operated by the Caspian Sea ecological environment protection system in Hovsan settlement, dug up in the 86-kilometer section of Bilgah, Buzovna, Mardakan, Pirshaghi, Nardaran, Novkhani and Sumgayit along the northern part of the Absheron peninsula 80% of land plots and wastewater ponds are dried out and the ecological balance is likely to be recovered.
2. As the only country among the Caspian littoral states, the complex measures to eliminate pollution of the sea and its aqueducts will be accomplished and regular measures will be taken in subsequent years to achieve significant results in the further purification of the Caspian water and the resources of the Absheron peninsula to pollute the Caspian Sea. , the elimination of existing threats will be achieved.

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